GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

VOLUME XXXVI, NUMBER 23, MARCH 24, 1958 . . . *To Know This World, Its Life*

DICK WOLFF

BIG-EARED African elephants roam freely through Kruger National Park in the Union of South Africa. Their Asian cousins (see page 268) have to work for a living.

► Tunisia—Troubled Friend

► Well-Schooled Asian Elephants

► Geography Shapes Norway's Life

► Riddle of Aurora's Lights

► Cherry Blossoms Herald Spring

***NEXT WEEK:** Geographic School Bulletins greet spring's most welcome emissaries — the songbirds.*

RENÉE GESMAR

value because of geography. Its coast forms a right angle, jutting into the Mediterranean, almost dividing that strategic sea into two vast lakes. When France granted freedom, it retained its mighty naval base at Bizerte and several military garrisons. The Western powers would hate to lose positions that so strengthen Western control of the Mediterranean.

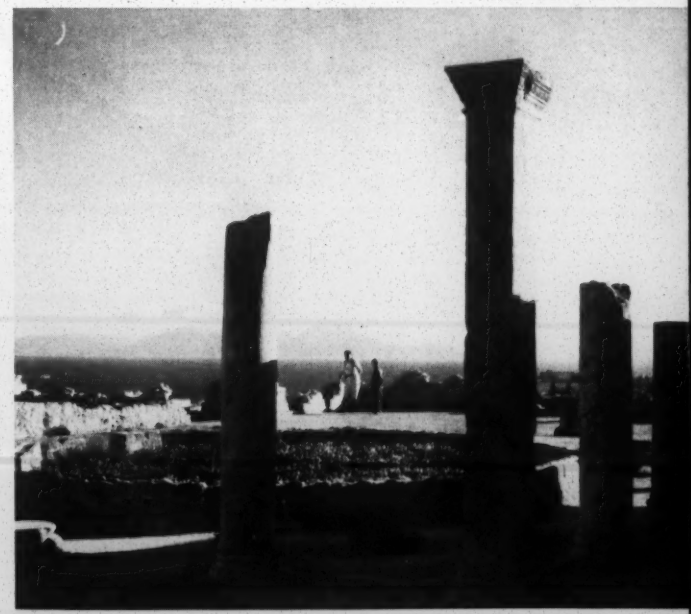
French rule left Tunisians with benefits. Many in the north find life fairly comfortable, with chances to relax over mint tea (left). All move about easier than in some Arab lands. Extensive railroads tie the nation with Algeria and Morocco. Automobiles whiz along good roads. In the capital, Tunis, a school that would grace any American city rears its many stories. The nation's school bells beckon 230,000 children. S.H.

CARTHAGE. The name worked wonder or fear in millions of ancient hearts. Gloried by classic structures, alive with trade, guarded by ready warriors, it laid an iron hand of rule along north Africa from the Gulf of Sirte to Gibraltar. Sardinians and Sicilians bowed to Carthaginians. Peoples of southern Spain paid Carthage tribute for their freedom. With banks of flashing oars, Carthage ships carried trade to Mediterranean islands and with fair winds drove on to the distant Azores and British Isles.

The rising Roman Empire humbled rival Carthage, literally plowing it under, then building a new city. Arabs finally destroyed it beyond repair in 698 A.D.

Tunisia's pro-Western president, Habib Bourguiba, supports the idea of a north African federation, uniting his country with Algeria and Morocco. The plan could solve many Arab and Western-world problems. It suggests a possible new destiny for Tunisians, who have only to glance at the ruins of Carthage (right) to realize that fortune's wheel keeps turning.

ANDRÉ DE LA VARRE



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HILAND DALE HOLT

Tunisia: A Troubled Friend

IT BAKES in the north African sun, a nation about the size of New York State, but with a population only half that of New York City. It owns pleasant landscapes (above) along its moist Mediterranean coast—fields tinted by olive groves, stands of wheat, fruit trees, and vegetable plots. Classical ruins give its scenery a southern European flavor. Sicily, after all, lies only 90 miles to the northeast. This is Tunisia, an independent nation with a history of loyal friendship to the Western powers—including France which gave it freedom two years ago this month.

But southward the land shades into the seared Sahara. Artesian wells probe desperately for water. Salt marshes and big salt lakes add to the sun-blasted look. This, too, is Tunisia, an Arab land, friendly to Arab neighbors.

Biggest neighbor is France's turbulent Algeria where rebels carry out raids on French installations. Tunisia has admittedly offered insurgents a training ground and sanctuary. France struck back by blasting a little Tunisian town close to the Algerian border. Britain and the United States are trying to heal wounds and restore Tunisia's pro-Western sentiments.

Since independence, Tunisia has been cut off from French financial aid. Its economy has been struggling, trying to find footing in the export of phosphate rock, used in fertilizers and munitions, and of mined iron, lead, and zinc. In the north, cottage industries hum with saddle making, leather embroidery, and pottery. Though the south may hide minerals, it is still unexploited.

Poor as it may be, the nation gains

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THE LIFE of the koomkies isn't bad. They go to work at about 17 years of age, retire at about 60. In some parts of India they get three months' vacation in summer, plus Sundays and national holidays off. Ranked third in intelligence among animals, elephants sometimes learn enough to work entirely independently, once they master their job. But stories of their prodigious memories are exaggerated.

In Thailand (lower right), elephants help fell tall teak trees and drag them to river's edge. Then other koomkies push the huge logs into the current, starting them on their journey downstream to Bangkok.

After working five or six hours in the tropic sun, elephants demand a cool wallow in fresh water. In Ceylon, below, thick hides get a rubdown with coconut husks to prevent them from chafing and cracking in the heat.

ARMIES of ancient times had an elephant wing, somewhat like the tank corps of today. The war elephant's current counterpart might be the tiger-hunting pachyderm of West Bengal, right. Hunters ride on howdahs, high wooden box saddles, when approaching game. A lumbering, uneasy gait tosses riders about like yachtsmen in a full gale. K. C.

(See "The Elephant and I" in October, 1957, *National Geographic Magazine.*)

YLLA, GUILLUMETTE

MAYNARD OWEN WILLIAMS

MAJOR W. T. BLAKE

E. P. GEE

Asia's Lumberjacks

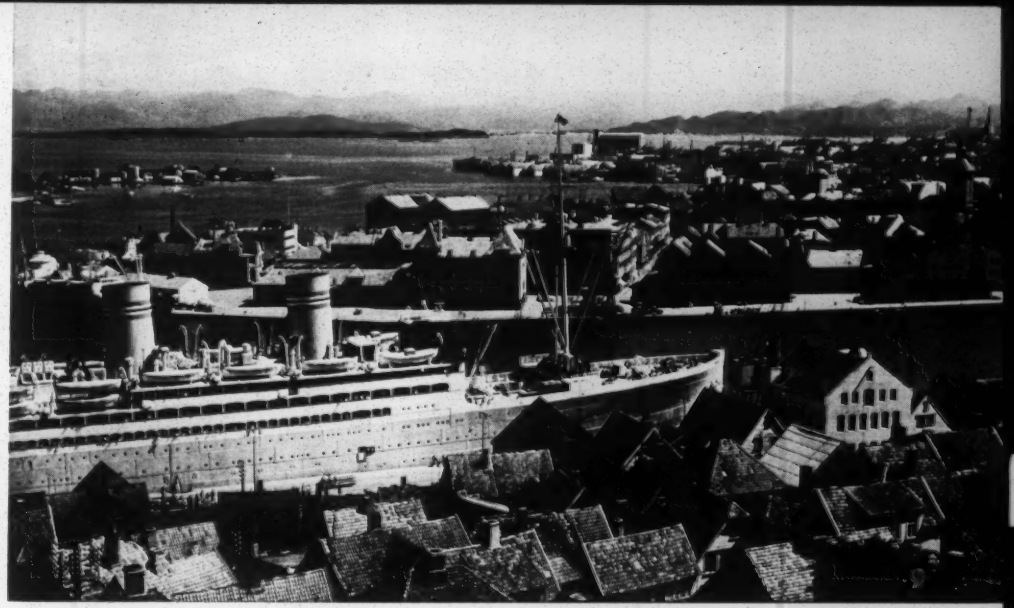
MARIE J. MATTSON

MOST American boys would like to drive a bulldozer. But in the Middle East and Southeast Asia, youngsters not only learn to drive them but make friends with them. That's because the local version of the bulldozer is often a huge, amicable, wrinkle-skinned elephant.

After a day's work loading timber in Thailand, a mahout (driver) slings harness and saddle into a tree (above), then steps down—with help from his four-legged tractor. This *koomkie* (trained elephant) once went through several months of the arduous schooling shown at left. Here, a novice elephant in Assam begins training harnessed tightly between two koomkies. The mahout astride his neck teaches some two dozen spoken commands by pressing feet and legs against his ear fans.

A Norwegian counterpart of Switzerland's Heidi, below, sits in her mountainside *seter,* stitching beautiful embroidery by the light of a kerosene lamp. Menfolk bring supplies and carry out butter and cheese, as described in the January, 1957, issue of the *National Geographic.*

But the fact that many farmers must double as fishermen, lumberjacks, or handicrafters lends meaning to an increasing drive for industrialization. A promising new area has been opened



up in the "forgotten corner" above the Arctic Circle. Since 1952, more than 100 companies have settled in this remote land of 24-hour summer daylight, tundra, and the aurora borealis. Incentives are Norway's minerals and fish. Abundant water power for electricity and government tax concessions add to the lure. A new steel mill will soon fill a nation's needs. Plants to manufacture aluminum, ammonia for fertilizer, ship engines, garments, and cement have sprung up.

One of the largest merchant fleets in the world takes Norway's exports to far-flung ports. Intrepid fishermen comb the North Atlantic. Big cruise ships like the *Stavangerfjord,* above, glide with deceptive ease out of intricate harbors. Coastal ships thread their way northward while passengers line the rails to watch the fjords go by. For many a rugged Norwegian living in towns that dot the craggy coast, these sturdy ships represent the link with the outside. A.P.M.

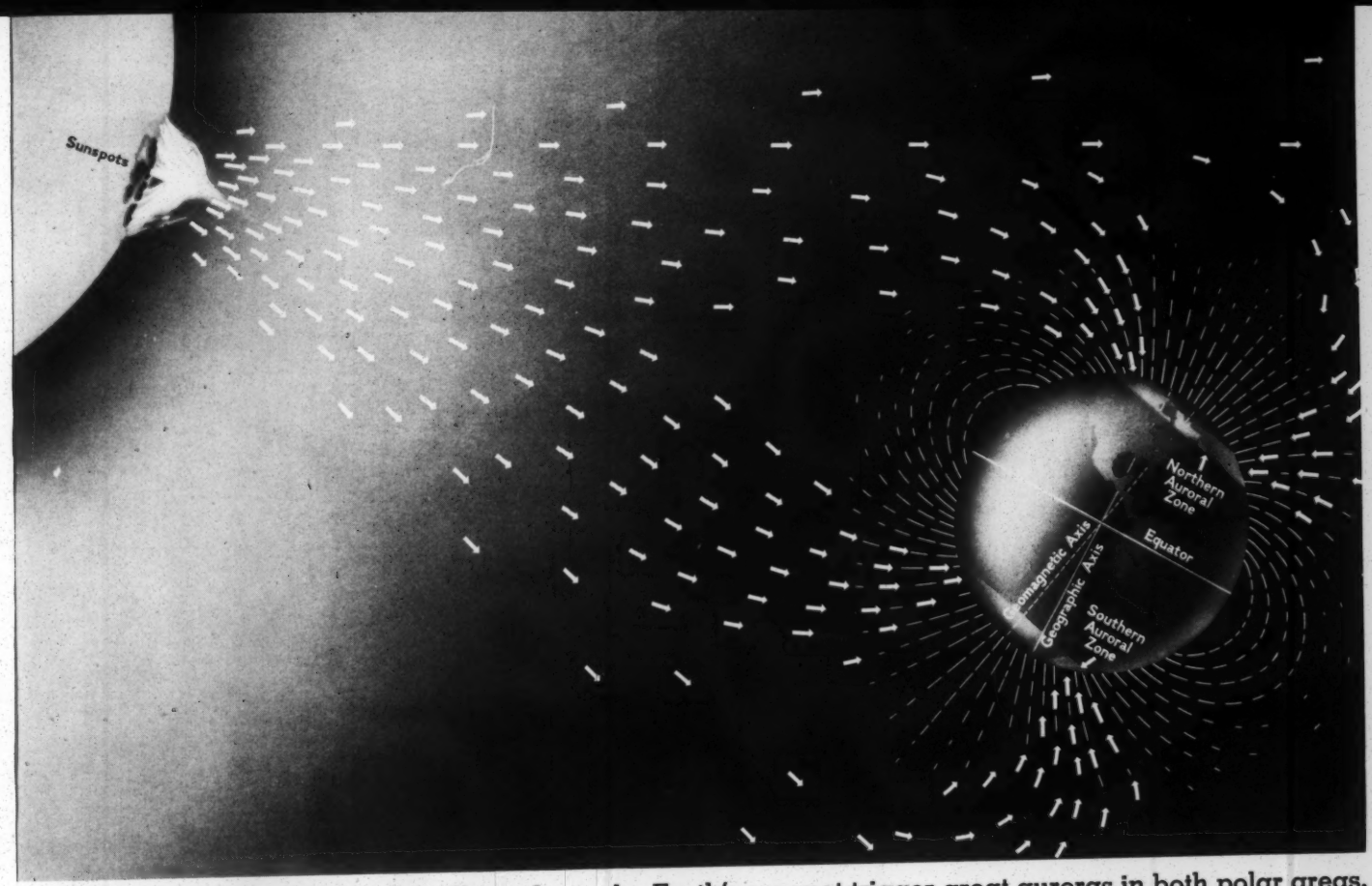
Norway's Burden: Geography

NORWAY'S people live on intimate terms with geography. To find a patch of land to grow his hay, many a farmer must climb high on the shoulders of one of the fjords that make deep gashes in his country's coastline. Before the breath-taking backdrop of the Seven Sisters cataract (left), plunging 1,500 feet into Geiranger Fjord in southwestern Norway, a whole family turns out to toss hay to dry over a traditional *hesje,* wires strung between poles. Near-by barn wears a sod roof.

Despite scarcity of good land, a number of crops flourish in the surprisingly temperate climate. Lying in the same latitude as southern Greenland, Norway warms its feet in offshoots of the Gulf Stream which sweep along its coast. Along the fjords grow tobacco, walnuts, even grapes. Apple, pear, plum, and cherry orchards dot the hills. In interior valleys, oats, barley, and potatoes thrive.

Norwegian men from King Olav V to the youngest fisherman of Trondheim are self-reliant. Also the women. New roads make the uplands more accessible. Yet, come summer, farm women in remote parts still drive cows, sheep, and goats thousands of feet up steep slopes to auxiliary pastures high above the fjords. Here they stay, milking cows, churning butter, and making cheese, until snow forces their retreat.

Photographs by Andrew H. Brown, National Geographic Staff



Sun fires barrage of particles. Those drawn by Earth's magnet trigger great auroras in both polar areas.

THEODORE TADDA

'DRAPERY' AURORA does skirling dance above the pines of Manitoba, Canada. Other types are illustrated in the November, 1947, *National Geographic Magazine*.

On crisp nights the northern sky sometimes puts on a display to humble wide-screen technicolor. Our cousins in Alaska, Canada, and the northern states have front-row seats for this drama of dancing draperies, rays, arcs, bands, and coronas.

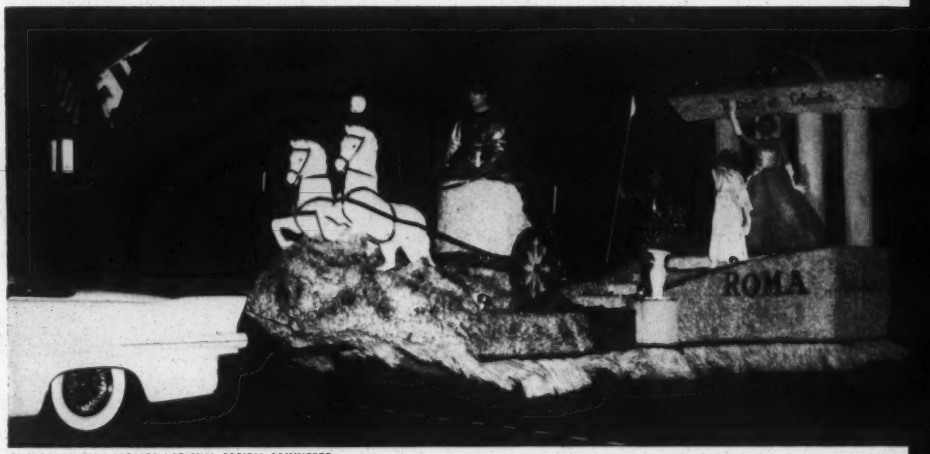
Aurora Borealis

NORWEGIANS have long held ringside seats for this awesome display of celestial lights. Ancient Norsemen explained the quivering, greenish-white spectacle as reflections from the shields of the Valkyries, bearing away heroes slain in battle.

Atomic physics now provides more fact, less fancy. When a gigantic whirlpool of flame—called a "prominence"—rears up from the sun's surface (at left in the diagram), it spews into the dark universe a tremendous stream of tiny particles of molecules. Part of this river of particles gushes toward the earth. When it reaches earth's envelope of outer atmosphere (less than 24 hours later), its unstable particles collide with molecules of atmosphere, setting off miniature atomic explosions and releasing energy in the form of light. This atomic fourth of July is caught up in the earth's magnetic field (converging arrows) and swept in to stage its brightest display in polar zones.

Auroras are closely linked to the magnetic storms that can crackle a short-wave operator's ears with static. To get more facts an army of skywatchers from 64 cooperating nations of the International Geophysical Year are looking heavenward every hour. Scientists aim cameras skyward to determine the height of an aurora by triangulation. Others analyze light spectra to get clues to the gases interacting. Instruments carried aloft in aircraft and rockets eavesdrop on the pulsating lights. As a result, future auroras should appear no less inspiring, but a great deal better understood.—A.P.M.

NATIONAL GEOGRAPHIC ARTIST IRVIN E. ALLEMAN



PHOTOGRAPHS BY GREATER NATIONAL CAPITAL COMMITTEE

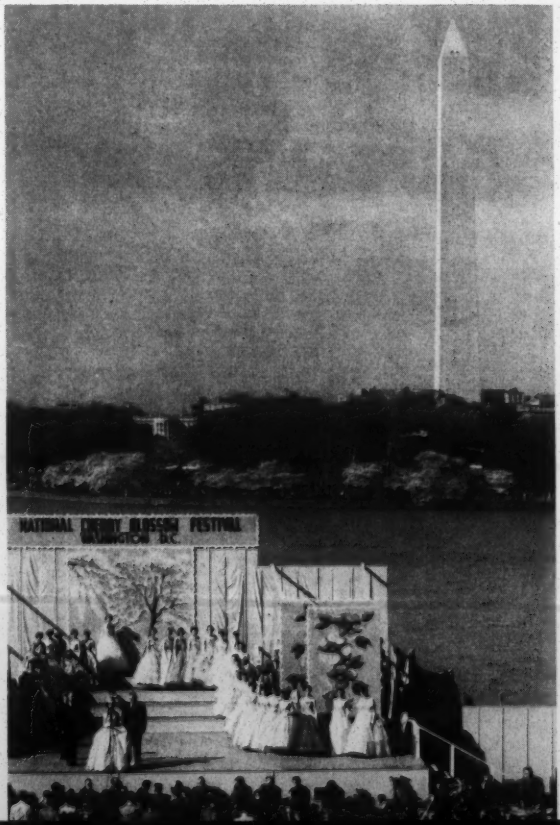
of Washington certainly is. Ornate floats represent all the states. The District of Columbia's, above, was supplied last year by a Washington restaurant. Crisply uniformed bands with high-stepping baton twirlers and crack military drill teams parade past thronged sidewalks and stern government buildings as the Nation celebrates its rite of spring.

FIRST cherry blossom celebration was staged in 1927. Washington school children put on a show. In 1934, the District of Columbia's Board of Commissioners sponsored a three-day ceremony. The first Cherry Blossom Queen was crowned.

The festival has now grown to a six-day affair. Crowds swarm to the Tidal Basin to see the queen hold court against a backdrop of flowering trees. Washington Monument presides loftily, right.

Last year, the queen wore briefly a three-and-a-quarter-pound crown of pearls and gold, worth about $100,000, presented to the festival by the Japanese Ambassador.

The blossoms that cause all this tumult by day have a quiet city to themselves at night (see next page).



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HARRIS & EWING (BACK COVER)

VOLKMAR WENTZEL, NATIONAL GEOGRAPHIC STAFF

TOKYO gave the first cherry trees to the American people in 1912. They were planted around the Tidal Basin which now laps the foot of the Jefferson Memorial. In 1952, 40 cuttings were sent back to Japan to replace trees cut for wartime firewood. In gratitude, Tokyo sent Washington a 300-year-old lantern, left, placed between the first two trees ever planted. Lighting of the lantern, by Japanese girls, marks the opening of the National Cherry Blossom Festival.

It's Cherry Blossom Time

TOMORROW the Nation's Capital begins a festival that will draw more sight-seers than any visiting dignitary. Star attraction is the fragile, pink or white blossom of the oriental flowering cherry tree. Every year, for 31 years, the tiny bloom has held court, drawing hordes of admirers as it colors the trees that rim Washington's Tidal Basin, above. Dense traffic crawls through quiet suburbs for a glimpse of back streets turned misty by blossoms.

Officials of Washington's Cherry Blossom Festival set its date months in advance. They have to in order to complete plans for civic functions. But nature, unconcerned with man's trivialities, lets the blossoms appear in their own sweet time. And the date doesn't always coincide with the festival. The Japanese trees bloom only for about 11 days. Until shortly beforehand no one can tell precisely when the flowers will appear.

To encourage trees to cooperate with spring-hungry people, the National Park Service has tried using chemicals. Various sprays have been devised to speed the budding, slow it down, or make the blossoms last longer. But most trees, set in their own ways, continue to bloom just when they feel like it, festival or no. Whether or not the cherry trees are in full blossom, the city

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